

SSVEO IFA List

Date:02/27/2003

STS - 88, OV - 105, Endeavour (13)

Time:03:56:PM

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>	<u>Documentation</u>	<u>Subsystem</u>
MER - 4	MET: 000:17:28	Problem	FIAR	IFA STS-88-V-01 CCTV
INCO-001	GMT: 339:02:04		SPR	Manager: Bernie Embrey
			IPR 99V-0007	x30184
				Engineer:

Title: Camera B Pan Drive Anomaly (GFE)

Summary: Approximately 339:02:04 GMT, crew reported a binding problem with Camera B pan drive. The crew first attempted to pan Camera B from 'directed at Camera C' to an alignment directed at Camera A (pan left). Process was repeated with same results. Camera C was activated to view Camera B activities, but no cable-related binding was apparent. Binding occurred at high rate only, not low at low rate. Camera B video is operating but pan operations are being minimized. On flight day 8, troubleshooting was performed on camera B and the binding at fast rate was experienced again. At the slow rate the camera B was able to pan. Video was taken to troubleshooting this problem. A PR VJSC-5-13-0270 was open on this camera during the STS-88 flow on a similar problem. KSC will troubleshoot the problem prior to camera removal.

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>	<u>Documentation</u>	<u>Subsystem</u>
MER - 7	MET: 002:13:57	Problem	FIAR	IFA STS-88-V-02 APU
MMACS-002	GMT: 340:22:33		SPR	Manager: Tibor Farkas
			IPR 99V-0002	562-922-4487
				Engineer: Ed Polewarczyk
				281-282-5378

Title: APU 2 Drain Line Pressure Decrease (ORB)

Summary: APU 2 Drain Line Pressure 1 & 2 (V46P0290A & V46P0291A) have decreased from approximately 15.5 psia prelaunch to 11.1 psia at GMT 340:22:33. A similar decrease occurred during STS-89 that was attributed to a slight leak of the relief valve. However, this is the first flight of the burst disk located between these

pressure measurements and the relief valve. The data showed initially a small GN2 leak of 1.3 pi/day and the decay rate decreased to approximately 0.5 psi/day. A post flight troubleshooting plan has been developed.

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>		<u>Documentation</u>	<u>Subsystem</u>
MER - 16	MET: 010:13:06	Problem	FIAR	IFA STS-88-V-03	RCS
PROP-001	GMT: 348:21:41		SPR	UA	Manager: Dave Perry
			IPR	PR RP01-28-1153	562-922-4018
					Engineer: Steve Arrieta
					281-282-5436

Title: Thruster R2D Failed Leak (ORB)

Summary: During the RCS Hotfire test, RCS jet R2D was declared failed leak by RCS RM due to evaporative cooling. The fuel injector temperature dropped below the RM limit of 20 degrees F and reached a minimum of 18.8 degrees F. The temperature recovered to nominal immediately following the hotfire pulses. The RCS jet has been deselected and will remain so for the duration of the flight unless another right pod down jet fails. KSC will perform a remove and replace of all the thrusters on that manifold.

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>		<u>Documentation</u>	<u>Subsystem</u>
MER - 17	MET: 010:05:08	Problem	FIAR	IFA STS-88-V-04	OMS
PROP-002	GMT: 348:13:44		SPR	UA	Manager: Dave Perry
			IPR 99V-0012	PR	562-922-4018
					Engineer: Steve Arrieta
					281-282-5436

Title: OMS Pod Starboard Keel Web Heater Failed Off (ORB)

Summary: The starboard keel web heater (V43T5700A) had been cycling on system "A" consistently at a low point of 58°F on this and other missions for this pod (RP01). At 348:13:44 the heater did not activate at 58°F but continued to decrease to about 54 °F. The attitude had been mostly ?ZLV ?XVV at low beta angle so the attitude is fairly symmetric for the pods. The port side keel web (V43T4700) cycled five times while the starboard side heater did not. A review of all past flight data showed the

54°F on this flight was the coldest on-orbit for system "A". There was a 0.68 hr biased starboard side sun attitude (biased 45° to the aft) flown after the drop to 54°F which caused a 1 bit rise. The starboard ox tank reached 70°F so the starboard heaters were switched to the B string to maintain the tank temperatures above 70 °F. KSC will perform troubleshooting.

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>	<u>Documentation</u>	<u>Subsystem</u>
MER - 18	MET: 011:19:50	Problem	FIAR	IFA STS-88-V-05
PROP-003	GMT: 350:04:26		SPR	UA
			IPR 99V-0010	PR
				Manager: Mel Cortec
				562-922-3640
				Engineer: Mark Fugitt

Title: Right RCS 1/2 Tank Isolation Valves Failed to Close (ORB)

Summary: During the post-landing RCS and OMS valve test, the Right RCS AC Motor Valve 1/2 Tank Isolation Valves talkback indication failed to indicate closed when commanded from the "open" to the "closed" position. the crew reported the talkback remained indicating "open". the switch was taken back to the "open" and then to the "closed" position with no joy on either the talkback nor telemetered valve positions indicators. Preliminary analysis of the data indicates that the problem is either in the aft MCA no. 3, the cockpit switch, or the copper path from the switch to AMCA no. 3. Tank iso valves were closed via LPS command. Panel 07 t/b indicated closed, however, the VPI did not indicate closed. Repeated valve cycles during offload with same results. Troubleshooting will continue.

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>	<u>Documentation</u>	<u>Subsystem</u>
MER - 19	MET: 011:18:12:30	Problem	FIAR	IFA STS-88-V-06
	GMT: 350:02:48:04		SPR	UA
			IPR	PR
				Manager: Dave Perry
				562-922-4018
				Engineer: Steve Arrieta
				281-282-5436

Title: Left OMS Engine Bipropellant Valve #1 Slow and Reduced Travel (ORB)

Summary: During the deorbit burn, the left OMS engine (s/n 109) bipropellant valve #1 exhibited a slow opening time of approximately 1 second. This opening time was twice the length of time taken by previous firings (approximately 0.5 seconds). For the previous flight of OV-105 STS-89, the opening time was faster at 0.4 seconds. The requirement for opening time is no more than 0.8 seconds. The open position of the valve for the deorbit burn was 95% whereas the open position for previous firings was

98%. The closed position of the valve for the deorbit burn was 1.5%, whereas the closed position for previous firings was minus 2.1%. Removal and replacement of OMS engine is possible.

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>	<u>Documentation</u>	<u>Subsystem</u>
MER - 1	MET: Prelaunch GMT: 337:08:53:42	Problem	FIAR SPR IPR 88V-0165	IFA STS-88-V-07 UA PR V070-5-A0007 Manager: Viet Pho 562-922-2884 Engineer: Andy Farkas 281-282-5318

Title: Pressure Hydraulic System 1 (ORB)

Summary: At 337:08:53:42 G.m.t. (approximately liftoff minus 4? minutes) during the final countdown for the December 3, 1998, launch, a master alarm was annunciated for a Launch Commit Criteria (LCC) violation and the countdown was held at that point. The hydraulic system 1 supply pressure B dropped to 1636 psia, well below the 2400 psia master alarm trigger point, during transition from low pressure to normal pressure. The backup flight system (BFS) did not receive the fault message because the pressure recovered prior to the second data scan below the lower limit. Data analysis confirmed the expected switching valve operation, as well as confirming an insufficient flow demand to cause the pressure drop. A review of the flight data indicated that the system 1 depressurization valve was momentarily energized at the time of the pressure drop. Troubleshooting and switch tests on the vehicle documented that switch tease was the most likely cause of the momentary actuation of the depressurization valve. The troubleshooting showed that the hydraulic system 1 depressurization switch had good stability in the normal pressure position. Proper remote power controller (RPC) operation with the switch in the normal pressure position was verified on this vehicle during the STS-89 mission. Based on the results of the data evaluation and the vehicle tests, the decision was made to make no changes to the vehicle and fly as-is for STS-88 second launch attempt.

Since the switch was found to be position sensitive, KSC troubleshooting is being scheduled for the switch with the possible removal and replacement of the switch.

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MER - 3 EECOM-001	MET: 000:04:30 GMT: 338:13:45	Problem	FIAR SPR IPR	IFA STS-88-V-08 UA PR DR BM833135 Manager: K. S. Chhipwadia\EC\281-483-

7633

281-483-7633

Engineer: Tracey

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483-0004

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Title: ACTEX Hose Wrong Connector (GFE)

Summary: Upon installing the GIRA hardware, the crew discovered an incompatible connection between the ACTEX (Activated Carbon Ion Exchange) Cartridge and the ACTEX Hose Assembly. The ACTEX Hose Assembly was built with a 1/2 inch male QD instead of the nominal 3/4 inch female QD per the drawing 528-2106-1. The ACTEX cartridge was assembled correctly, and all labels were correct.

An IFM procedure is being developed to replace the male QD at the end of the ACTEX Hose with a female QD from the Red-Red hose, part of the Contingency Hose and Cable Kit. The IFM was performed on FD2. No KSC action required.
